

Lassa fever outbreak investigation and contact tracing in Lagos state, Nigeria, January 2016

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2. Lagos State Ministry of Health



Background

- Lassa fever: an acute, highly infectious, viral haemorrhagic illness caused by arena virus - lassa fever virus
- The disease is endemic in West Africa countries including Nigeria
- Vector is *Mastomys natalensis*, incubation period: ranges 6 – 12 days
- Recent epidemic in Nigeria
 - started in Nov. 2015 extended to Feb, 2016
 - 26 (72.2%) out of 36 states
 - confirmed cases: 106, deaths: 67, CFR: 63.2%
- January 15th 2016: first case was reported in Lagos State, Nigeria

Objectives

- To confirm and determine magnitude of the outbreak
- To characterize the outbreak in time, place and person
- To identify contacts of cases for follow-up
- Institute control measures

Methods

- Descriptive study
 - active case search
 - health records review
- Contacts
 - identified and assessed for level of exposure to a case
 - followed up for 21 days
- Blood specimen was collected from suspected cases and tested by RT-PCR
- Environmental assessment was conducted around the homes of cases

Case definition

- **Suspected case**

- illness with onset of fever, with or without sore throat and at least one of the following signs: bloody diarrhea, bleeding from gums, bleeding into skin (purpura), bleeding into eyes and urine in January 2016, in Lagos state

- **Confirmed case**

- a suspected case with laboratory confirmation (positive IgM antibody or viral isolation) or epidemiological link to confirm cases or outbreaks

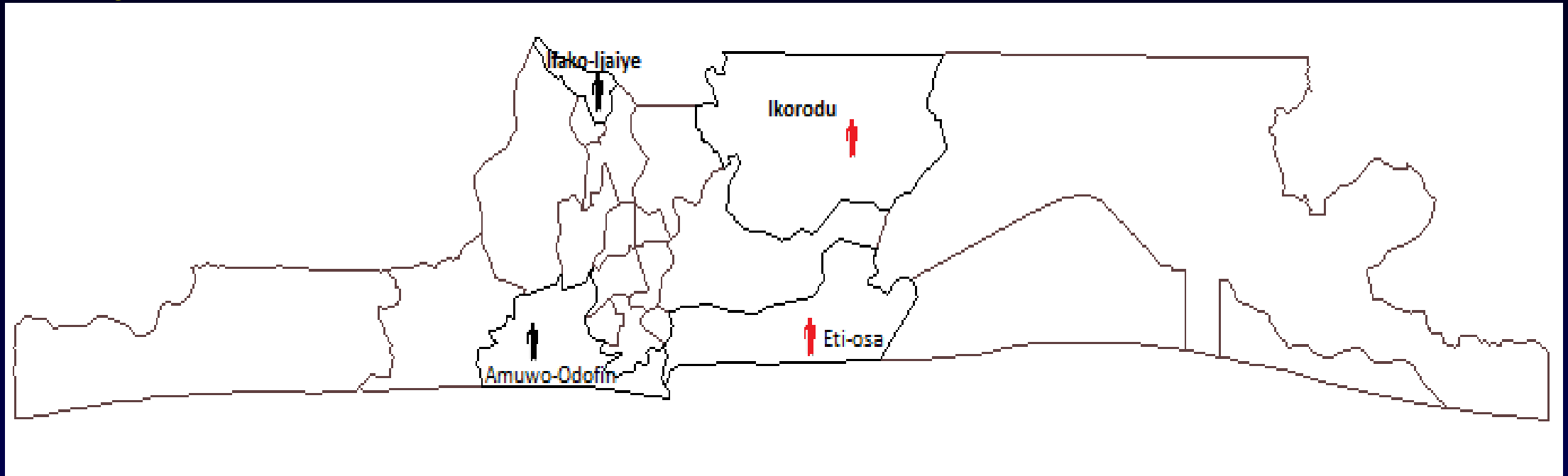
Contact tracing

- Method involves:
 - No risk category: No direct contact with a case or his potentially infectious material (e.g. shared a room with case)
 - Low risk category: Protected close direct contact with case (e.g. routine medical/nursing care and handling of case laboratory specimen wearing PPE), and beddings and other contaminable fomites.
 - High risk category: Unprotected exposure of skin or mucosal membranes (e.g. mucosal exposure to splashes, needle-stick injury) to blood or body fluid, including unprotected handling of laboratory specimen

Results

- 4 confirmed cases and 18 suspected cases no epidemiological links
- 2 deaths, CFR = 50%
- Mean age: 34.8 ± 11.9 years
- Female: 50% of cases
- Two cases (50%) were imported from another state with outbreak of lassa
- Evidence of rat infestation in the homes
- 655 contacts of cases, none developed symptoms

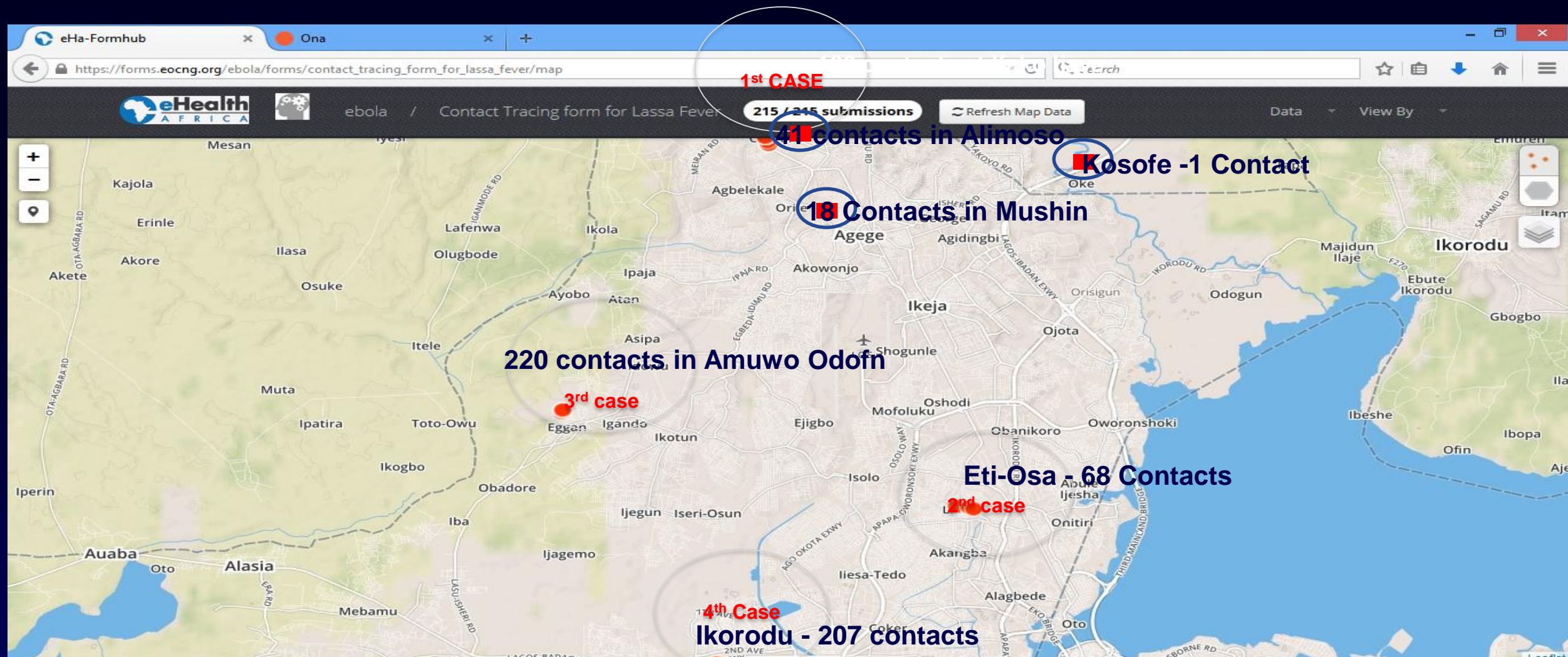
Map of Lagos state showing spatial distribution of cases, January 2016



Mean duration of treatment (survivors) : 12.5 ± 2.1 days

Mean duration of illness before diagnosis (deceased): 12.0 ± 2.8 days

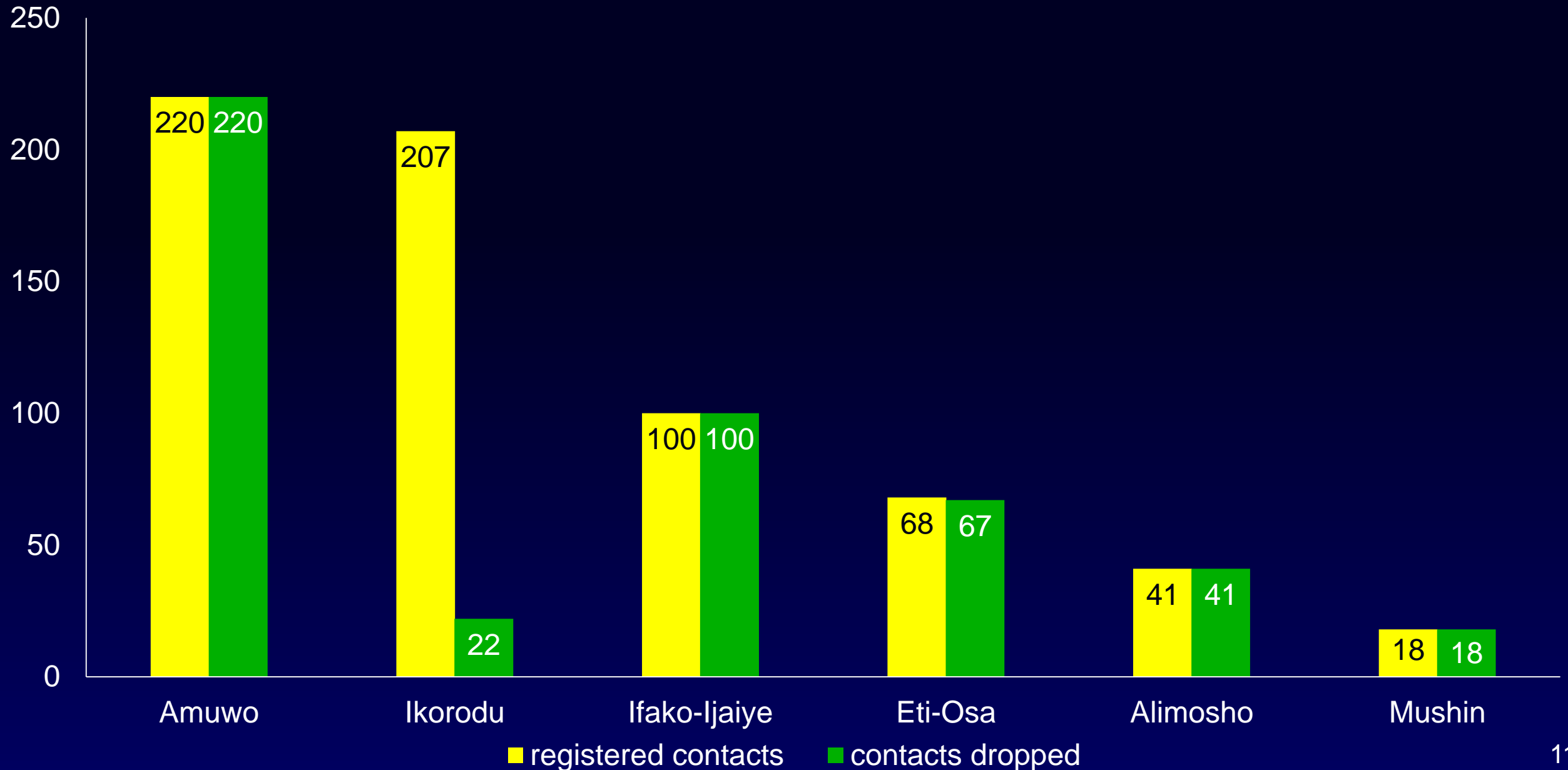
MAP SHOWING AFFECTED AREAS AND OF CASES AND CONTACTS



Cummulative Lassa cases and contacts

		Suspect	1	2
1	New cases reported	Confirmed	0	0
		Total	0	2
		Suspect	1	3
2	Cumulative number of cases	Confirmed	4	4
		Total	6	7
3	Total suspects discarded		18	18
		Suspect	1	1
4	Cumulative number of deaths	Confirmed	2	2
		Total	2	3
5	Healthcare workers(deaths)		0	0
6	Non Healthcare workers(deaths)		2	2
7	New contacts registered		0	0
8	Total contact registered		655	655
9	Contacts completed 21 days		257	469(71.6%)
10	Contacts under follow-up		398	186

Proportion of contacts that completed follow-up by LGA



Update on contacts by LGA

Contacts	Eti-Osa	Mushin	Alimosho	Ifako-Ijaiye	Amuwo-Odofin	Kosofe	Ikorodu
1 New contacts registered today (09/02/2016)	0	0	0	0	0	0	0
2 Total contacts registered	68	18	41	100	220	1	207
Contacts that have completed 21 days	68	18	41	100	220	1	207
3. Contacts that are being followed-up	1	0	0	0	0	0	185
4 Contacts followed today as at 5pm(09/02/2016)	1 (100%)	100%	100%	100%	100%	100%	177 (96%)

Summary of results and outcome of cases

LGA	TOTAL CASES	RESULTS/ OUTCOME	
Agege	1		1 negative
Ifako-Ijaiye	2	1 positive (discharged after 2 weeks on admission at LUTH)	1 negative
Alimosho	2		2 negative
Mushin	2		2 negative
Amuwo-Odofin	7	1 positive (Alive and discharged after 11days on admission at Mainland hospital)	6 negative
Eti-Osa	2	1 positive (Died a few hours after admission before confirmation of diagnosis)	1 Negative
Mainland	3		3 negative
Ikorodu (Ijede)	3	1 positive (Died a few hours after admission before confirmation of diagnosis)	2 Negative
TOTAL	22	4 positive	18 Negative

Public health action

- Sensitization of health workers in Lagos State
 - infection prevention and control
- Community sensitization
 - environmental sanitation
 - food storage
 - good housekeeping
 - hand washing

Conclusion

- Confirmed outbreak of Lassa fever in Lagos State
- CFR was 50%
- No epidemiological linkage

Recommendation

- Recommendation
 - Strengthening Lassa fever surveillance
 - Routine sensitisation of Public/health workers
 - All efforts at environmental sanitation and the vector (rat) control should be intensified

Acknowledgements

- Nigerian Field Epidemiology and Laboratory training programme
- Lagos State Ministry of Health

Thank you for your attention!!!